

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

Claims 1-36 canceled.

37. (New) A method of operating a computing device as a first peer in a peer-to-peer network wherein said first peer is adapted to perform a co-operative role in relation to a second peer in the peer-to-peer network, comprising:

- a) establishing contact between the first peer and the second peer which is to be the subject of the co-operative role; and
- b) providing said co-operation.

38. (New) A method of operating a peer-to-peer network with a first peer and a second peer, wherein the first peer is a super-peer, which is adapted to perform a co-operative role, comprising:

- a) the super-peer receiving notification that the co-operative role is requested;
- b) the super-peer establishing contact with the second peer which is to be the subject of the co-operative role; and
- c) providing co-operation between the first and second peers.

39. (New) The method according to claim 38, wherein the peer-to-peer network further comprises a third peer, wherein the third peer is a second super peer, and any of steps a) to c) are assigned to, and performed by, the third peer.

40. (New) The method according to claim 38, wherein the co-operative role is a holding role to hold data for the benefit of the second peer, where the holding role includes the steps of the super-peer:

- d) receiving data;
- e) recording the received data;
- f) receiving requests for the received data from users of the network or a process running on the network;
- g) retrieving the received data based on the request; and
- h) transmitting the received data to the requesting user or process.

41. (New) The method according to claim 40, further comprising the steps of the super-peer:

receiving further data;

wherein step (d) includes the step of the super-peer:

- (d1) processing the received data based on the further data.

42. (New) The method according to claim 40, further comprising the step of the super-peer:

- i) receiving further data with the received data;

- j) wherein step (d) includes the step of:

- (d1) the super-peer processing the received data based on the further data.

43. (New) The method according to claim 42, wherein the peer-to-peer network contains a third peer and step (d) includes the step of:

(d1) performing operations which result in one or more transmissions to the third peer.

44. (New) The method according to claim 42, wherein the peer-to-peer network contains a third peer and step (f) includes the step of:

(f1) performing operations which result in one or more transmissions to the third peer.

45. (New) The method according to claim 40, wherein step (d) includes the step of:

(d1) performing operations which affect the received data, or which affect other data previously recorded or which result in one or more transmissions to the second peer.

46. (New) The method according to claim 40, wherein step (f) includes the step of:

(f1) performing operations which affect the request, or which affect data previously recorded or which result in one or more transmissions to the second peer.

47. (New) The method according to claim 40 wherein the co-operative role corresponds to the super-peer being a witness to a transaction.

48. (New) The method according to claim 40 wherein the stored data corresponds to links to other peers.

49. (New) The method according to claim 48 wherein the links constitute a neural network having statistical attributes which indicate characteristics of the link such as usability or popularity.

50. (New) The method according to claim 38, wherein the co-operative role is an assignment role to assign one or more operations to the second peer, where the assignment role includes the steps of:

- d) the super-peer deciding that the second peer is required to perform an operation;
- e) selecting the second peer from a list of peers that are available;
- f) retrieving details of the second peer; and
- g) instructing the second peer to perform the operation.

51. (New) The method according to claim 50, including the further steps of:

- h) assessing the peers in the list of available peers; and
- i) recording the results of the assessing step.

52. (New) The method according to claim 38, wherein the co-operative role is a sharing role to share performance of an operation with the second peer, the sharing role including the steps of:

- d) the super-peer receiving notification that a peering relationship is required, a peering relationship being a method of operating with the second peer so as to share the performance of an operation;
- e) determining an identity of a sibling required to implement the peering relationship, the sibling being the second peer;

- f) establishing a peering relationship with the sibling;
- g) maintaining synchronization between a database on the super-peer and a database on the sibling.

53. (New) The method according to claim 52, wherein the peer-to-peer network comprises a third peer, the sharing role including the step of:

- h) replacing the sibling with a second sibling as required, the second sibling being the third peer.

54. (New) The method according to claim 52, wherein the peer-to-peer network comprises a third peer, the sharing role including the step of:

- h) creating a third sibling as required, the third sibling being the third peer.

55. (New) The method according to claim 52, wherein step (g) includes the steps of:

- (g1) handling a request related to the operation if it does not affect a state of the operation; and
- (g2) transmitting the request to the sibling, if the super-peer is unable to handle the request.

56. (New) The method according to claim 52, wherein step (g) includes the steps of:

- (g1) handling a request related to the operation if it does affect a state of the operation; and
- (g2) transmitting the request to the sibling.

57. (New) The method according to claim 52, wherein step (f) includes the steps of:
- (g1) confirming that the super-peer and the sibling have received the same request, before handling a request related to the operation; and
 - (g2) handling the request independently upon confirmation.
58. (New) The method according to claim 52, wherein:
- one of the super-peer and the sibling incorporate functionality related to receiving data; and
 - one of the super-peer and the sibling not receiving data incorporate functionality related to processing or recording the data.
59. (New) The method according to claim 52 wherein the co-operative role corresponds to the super-peer performing joint or jury-peering in relation to a transaction.
60. (New) The method according to claim 38, wherein the co-operative role is an interfacing role to provide users not able to access the network with an interface to the network, where the interfacing role includes the steps of:
- d) the super-peer receiving data from a user who is unable to access the network, wherein the data is received independently of the network;
 - e) executing the data;
 - f) obtaining results of the execution; and
 - g) transmitting the results to the user, wherein the results are transmitted independently of the network.

61. (New) The method according to claim 60 wherein the first and second peers perform cooperative peering thereby allowing a jury function to be performed by the first and second peer in relation to a transaction.

62. (New) The method according to any of claims 47, 59, or 61, wherein the transaction corresponds to a sale, swap, auction, bid, exchange, distribution of information or other transaction which is amenable to supervision, authorisation, validation or distribution.

63. (New) The method according to claim 38, including the further steps of:

- d) the super-peer interfacing with a user not located on the network;
- e) the super-peer reformatting data for the user to view.

64. (New) A method of operating a computing device as a first peer in a peer-to-peer network, wherein the peer-to-peer network comprises a second and third peer, the first peer being adapted to dynamically support an interaction between the second and third peers who are otherwise communicating with each other directly, the method including the steps of:

- a) the first peer establishing contact with the second and third peers which are to be supported; and
- b) providing said support.

65. (New) A system for operating a computing device as a peer in a peer-to-peer network, wherein the peer-to-peer network comprises a second peer, the device adapted to perform a co-operative role for the second peer in the peer-to-peer network, the system including:

a data storage means storing data related to the co-operative role and an implementation of the co-operative role; and

a data processing system coupled to said data storage means and adapted to:

in accordance with the co-operative role, establish contact with the second peer which is to be the subject of the co-operative role; and
provide said co-operation.

66. (New) The system according to claim 65, wherein the co-operative role is a holding role to hold data for the benefit of the second peer, the system including:

a data processing system adapted to:

receive data;

record the received data;

receive requests for the received data from users of the network or a process running on the network;

retrieve the received data based on the request; and

transmit the received data to the requesting user or process.

67. (New) The system according to claim 66, wherein the data processing system is further adapted to:

receive further data;
process the received data based on the further data.

68. (New) The system according to claim 66, wherein the data processing system is further adapted to:

receive further data with the received data and
process the received data based on the further data.

69. (New) The system according to claim 66, wherein the data processing system is further adapted to:

where specified by the co-operative role, perform operations which affect the received data, or which affect the request, or which affect other data previously recorded, or which result in one or more transmissions to the second peer.

70. (New) The system according to claim 69, wherein the peer-to-peer network contains a third peer and the data processing system is further adapted to:

where specified by the co-operative role, perform operations which affect the received data, or which affect the request, or which affect other data previously recorded, or which result in one or more transmissions to the third peer.

71. (New) The system according to claim 65, wherein the co-operative role is an assignment role to assign one or more operations to the second peer, the system including :

a data processing system adapted to:

decide whether or not the second peer is required to perform an operation;

select the second peer from a list of peers that are available;

retrieve details of the second peer; and

instruct the second peer to perform the operation.

72. (New) The system according to claim 71, wherein the data processing system is further adapted to:

assess the peers in the list of available peers; and

record the results of the assessment.

73. (New) The system according to claim 65, wherein the role is a sharing role to share a performance of an operation with the second peer, the system including :

a data processing system adapted to:

receive notification that a peering relationship is required, a peering relationship being a method of operating with the second peer so as to share the performance of an operation;

determine an identity of a sibling for the peering relationship, the sibling being the second peer;

establish a peering relationship with the sibling; and

ensure that the super-peer and the siblings remain synchronized.

74. (New) The system according to claim 73, wherein the peer-to-peer network comprises a third peer, and the data processing system is adapted to:

replace the sibling with a second sibling as required, the second sibling being the third peer.

75. (New) The system according to claim 73, wherein the peer-to-peer network comprises a third peer, and the data processing system is adapted to:

create a third sibling as required, the third sibling being the third peer.

76. (New) The system according to claim 73, wherein the data processing system remains synchronised by:

handling a request if it does not affect a state of the operation; and
transmitting the request to the sibling, if the super-peer is unable to handle the request.

77. (New) The system according to claim 73, wherein the data processing system remains synchronised by:

handling a request if it does not affect a state of the operation; and
transmitting the request to the sibling.

78. (New) The system according to claim 73, wherein the data processing system is further synchronised by:

confirming that the super-peer and the sibling have received the same request before handling a request that relates to the operation; and
handling the request independently upon confirmation.

79. (New) The system according to claim 65, wherein the co-operative role is an interfacing role to provide to users not able to directly access the network an interface to the network, wherein the data processing system is further adapted to:

receive instructions from a user who is unable to access the network, wherein the instructions is received independently of the network;
execute the instructions;
obtain results of the execution; and
transmit the results to the user, wherein the results are transmitted independently of the network.

80. (New) The system according to claim 79, wherein the data processing system is further adapted to:

retrieve user specific data; and
modify the instructions based on the user specific data.

81. (New) The system according to claim 80, wherein the data processing system is further adapted to:

retrieve user specific data; and
modify the results based on the user specific data.

82. (New) A system for operating a computing device as a peer in a peer-to-peer network, wherein the peer-to-peer network comprises a second and third peer the first peer adapted to dynamically support an interaction between the second and third peers who are otherwise communicating with each other directly, the system including :

a data storage means for storing data related to a co-operative role and an
implementation of the co-operative role; and
a data processing system coupled to said data storage means and adapted to:
establish contact with the second and third peers which are to be supported,
and
provide said support.